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The translation from the second German edition has been executed with rare skill and fidelity. The work of the publisher is also good.

W. E. CASTLE.

Bacteria in Relation to Plant Diseases. By ERWIN F. SMITH, in charge of Laboratory of Plant Pathology, Office of Physiology and Pathology, Bureau of Plant Industry, U. S. Department of Agriculture. Volume I., Methods of Work, and general literature of Bacteriology exclusive of Plant Diseases. Washington, D. C., published by the Carnegie Institution of Washington. September, 1905. Pp. xii + 285. 4to. Publication No. 27.

We are told in the preface that "the present volume contains an 'outline of methods of work' which was written up in substantially the same form four years ago, in connection with the investigations of the Laboratory of Plant Pathology, Bureau of Plant Industry, United States Department of Agriculture, its publication having been delayed in order to bring the rest of the manuscript into suitable shape." In its present form it is now published 'with the approval of the Secretary of Agriculture.' This book has thus a quasi-official authority, representing, as it does, the high standards set by the scientific bureaus of Washington.

The author says that his monograph 'is not intended to take the place of ordinary text-books of bacteriology, but rather to supplement them.' While primarily intended for the plant pathologist, 'it is hoped that it will be of value to physicians and animal pathologists for purposes of comparison.'

The principal topics touched upon in this volume are the nature of disease, the morphology, physiology and pathogenic character of the organism, the preparation and use of various kinds of culture media, economic aspects, methods of infection, methods of prevention, location and equipment of the laboratory, methods of work, microscopes, nomenclature and classification, working formulæ etc. At the close of the book there is a classified bibliography including almost fourteen

hundred titles, which must prove of the greatest value to the bacteriologist.

Turning to the section which deals with nomenclature and classification, one reads with a smile the crisp remarks of the author, as when he says 'the nomenclature of the bacteria is in a somewhat chaotic state, as might be expected of a science which has been cultivated so largely by medical men, and so comparatively little by systematic botanists and zoologists.' The designation of species by numbers and letters is condemned, as also the use of polynomials. Better descriptions are strongly urged, and far more care in associating a particular organism with a certain disease. The suggestion is made that the starting point for species should be 1881, when pure cultures became possible. The suggestion is made, also, that the starting point for genera should be 1872, the date of Cohn's 'Untersuchungen über Bakterien.' With some modifications the author adopts Migula's plan of classification in his 'System der Bakterien,' 'until some distinctly better system makes its appearance.'

On the question of the polymorphism or fixity of bacteria Dr. Smith holds 'a sort of middle ground':

There can be no doubt that the same organism sometimes exists as a long filament in which no septa are visible, and at other times as a short or nearly isodiametric rod, but we are not thereby compelled to consider the short form as a *Micrococcus*, i. e., as something very different from the long form. Physical conditions probably have much to do with bringing about these differences.

We should like to quote further from this very suggestive and helpful book, but must refer the reader to the volume itself. The value of this volume is so evident that we look with great interest for the second, whose publication it is hoped will not be long delayed.

CHARLES E. BESSEY.

THE UNIVERSITY OF NEBRASKA.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Journal of Nervous and Mental Diseases* for November opens with a paper by D'Orsay Hecht in which he reviews the literature of dementia præcox, frequently illustrating the

points mentioned with cases from his own experience. The article is to be continued in the next issue. Dr. Ward A. Holden presents some statistics on the early ocular signs of dementia paralytica, and sums up as follows: "In true, uncomplicated paresis there is early in the disease almost constant absence of the sensory reflex, in half the cases irregularity of the pupils, in nearly half inequality of the pupils, in more than half abnormally small pupils, in a fifth of the cases loss of light reaction, in another fifth marked sluggishness of light reaction, and in a few of those with diminished light reaction a diminution of convergence reaction also. A preliminary paper on psychasthenia, its clinical entity illustrated by a case, is contributed by Sidney Schwab."

BEGINNING in January next, it is announced that the *Bulletin of the Geographical Society of Philadelphia* will be issued every three months. Professor Emory R. Johnson will be the responsible editor and will have the co-operation of Mr. Walter Sheldon Tower as associate editor. The past year has been the most prosperous one in the history of the society—judging by the increase in membership and general activity of the organization.

SOCIETIES AND ACADEMIES.

THE CENTRAL ASSOCIATION OF SCIENCE AND MATHEMATICS TEACHERS.

THE association will hold its annual meeting on December 1 and 2 in the Y. M. C. A. building, 153 La Salle St., Chicago. The general meetings will be held on the second floor, and the section meetings on the seventh floor, of the building. The association, which has members in twelve states, invites all persons who are interested in the subject matter and the teaching of science and mathematics to become members. The program which follows may be had in pamphlet form upon application to the secretary, C. M. Turton, 440 Kenwood Terrace, Chicago, Ill.

GENERAL PROGRAM.

Friday, December 1.

- 9:00 A.M. Exhibits of apparatus, second floor of building.
10:00 A.M. General meeting.

Address—'Hypothesis of the Origin of the Earth,' Professor T. C. Chamberlin, head of department of geology, University of Chicago.

Address—'Relation of Forestry to Public School Instruction,' Ernest A. Sterling, U. S. Department of Forestry.

2:00 P.M. Section meetings, seventh floor of the building.

Saturday, December 2.

9:00 A.M. General meeting, reports of committees, general business, election of officers.

10:00 A.M. Section meetings.

1:30 P.M. Excursions by various sections.

PROGRAM—BIOLOGY SECTION.

Friday, December 1, 2:00 P.M.

'What and How Much Can be Done in Ecological and Physiological Zoology in Secondary Schools?' Oscar Riddle, Central High School, St. Louis, Mo.

Report of the committee on 'The Course in Biology in Secondary Schools,' Chairman Worrall Whitney, South Chicago High School.

Discussions based on the committee's report.

'Should Botany and Zoology be Taught in Full Year Courses?' G. H. Bretnall, Monmouth College.

'The Relative Emphasis to be Given to Morphology, Physiology, Ecology and Other Phases of Biology,' Miss Elma Chandler, Elgin High School.

'What, and How Much Field Study may be taught?' Fred. L. Charles, Normal School, DeKalb, Ill.

'In What Order Should Animal and Plant Groups be Studied?' Miss Amelia McMinn, West Division High School, Milwaukee, Wis.

Open discussion.

Saturday, December 2, 10:00 A.M.

Election of officers and general business of the section.

The laboratory note-book problem, five-minute discussions.

'The Technique of Projection and Anesthesia of Animals, with Numerous Demonstrations,' A. H. Cole, Lake High School, Chicago.

Saturday Afternoon Excursions.—Washington Park Conservatory and Field Columbian Museum, Lincoln Park Conservatory and animal exhibit. Uihlein's orchid houses.

PROGRAM—CHEMISTRY SECTION.

Friday, December 1, 2:00 P.M.

'Recent Advances in Chemical Knowledge,' Dr. L. W. Jones, University of Chicago.

Discussion.

'Equipment of a Modern Chemical Laboratory